

FCC MAIL SECTION

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Before the
Federal Communications Commission
Washington, D.C. 20554

PR Docket No. 93-35

In the Matter of
Amendment of the Commission's
Rules To Provide Channel Exclusivity
To Qualified Private Paging Systems
at 929-930 MHz

RM-7986

NOTICE OF PROPOSED RULE MAKING

Adopted: February 18, 1993; Released: March 31, 1993

Comment Date: May 6, 1993

Reply Comment Date: May 21, 1993

By the Commission:

I. INTRODUCTION

1. By this *Notice*, we propose to amend Part 90, Subpart P of our rules¹ governing private carrier paging (PCP)² service in the 929-930 MHz band to grant channel exclusivity to qualified local, regional, and national paging systems. Our proposal is based in part on a Petition for Rule Making filed by the Association for Private Carrier Paging Section of the National Association of Business and Educational Radio, Inc. (NABER).³ We propose to adopt some elements of the NABER proposal and to modify others.

2. Under our proposal, PCP systems consisting of six or more transmitters would be entitled to channel exclusivity in most service areas, and larger systems could obtain regional or nationwide exclusivity. This proposal would be implemented on 35 of the 40 private paging channels at 900 MHz, while five channels would continue to be assigned on a non-exclusive basis. To qualify for exclusivity, PCP licensees would be required to construct their systems within eight months of licensing, with "slow growth" extensions allowed under some circumstances. Existing systems that meet the new criteria would obtain immediate

exclusivity, and all other existing systems would be grandfathered. We solicit comments on the merits of exclusivity for PCP systems generally and on the specifics of this proposal.

II. BACKGROUND

A. Development Of 900 MHz Private Carrier Paging Rules.

3. In 1982, we initiated PCP service in the 900 MHz band by creating 40 private paging channels at 929-930 MHz.⁴ Originally, 10 of these channels were allotted to commercial service while 30 were set aside for non-commercial use.⁵ In 1985, in response to growing demand for commercial channels, we reallocated the 929-930 MHz band to make 20 channels available for commercial use, and further authorized inter-pool sharing of channels.⁶

4. In establishing 900 MHz paging service, we elected to assign PCP frequencies on a non-exclusive basis.⁷ We reasoned that channel sharing was feasible because one-way paging service requires less channel capacity than two-way communications. We also noted that technological advances were increasing potential channel capacity, and that non-exclusive channel assignments had been successful on lower band paging channels.⁸ We therefore decided to rely solely on frequency coordination and licensee cooperation to promote efficient channel use and prevent interference.

B. Utilization Of Private Carrier Paging Frequencies.

5. In the ten years since the inception of 900 MHz paging service, the paging marketplace has changed dramatically. Hundreds of private paging operators are now licensed and in operation. Paging technology has improved while the average cost of service has declined.⁹ Paging services are increasingly being offered on a wide-area basis through regional and nationwide paging systems, and subscribership has been growing at an annual rate of 15 to 20 percent. Based on these trends, industry analysts project that more than 20 million units will be in service by the mid-1990s.¹⁰

6. To meet this growing demand, paging companies have occupied much of the available spectrum on common carrier paging channels and on PCP channels below 900 MHz. Common carrier channels, which are assigned on an exclusive basis, have been allotted in virtually all major markets. PCP channels at 150 and 460 MHz, which are assigned on a non-exclusive basis, have become increasingly crowded as well, particularly in urban areas.

¹ In our recently initiated "refarming" rule making, we have proposed to replace the current Part 90 in its entirety with a new Part 88. See *Notice of Proposed Rule Making*, PR Docket No. 92-235, 7 FCC Rcd 8105 (1992). Aside from this transposition, however, the refarming rule making does not propose any change to the rules that are the subject of this proceeding. Should the refarming proposal be adopted prior to a decision in this proceeding, we will amend this proposal to refer to the appropriate sections of Part 88. Otherwise, any changes made to Part 90 as a result of this proceeding will be incorporated into the refarming proposal to the extent it is ultimately adopted.

² As used herein, the term "private carrier paging" is intended to encompass both commercial and non-commercial private paging channels above 900 MHz, as well as well as paging-only channels at 150 and 460 MHz in the Business Radio Service.

³ Petition For Rule Making, RM-7986, filed April 24, 1992.

⁴ *First Report and Order*, Gen. Docket No. 80-183, 89 FCC 2d 1337 (1982) ("*First 900 MHz Paging Order*"); *Second Report and Order*, Gen. Docket No. 80-183, 91 FCC 2d 1214 (1982) ("*Second 900 MHz Paging Order*"). At the same time, we allocated forty channels in the 930-931 MHz band for common carrier paging services.

⁵ *Second 900 MHz Paging Order* at paras. 30-31.

⁶ *Report and Order*, PR Docket 85-102, 58 RR 2d 1290 (1985).

⁷ *Second 900 MHz Paging Order* at para. 32.

⁸ *Id.*

⁹ See "1992 Survey of Mobile Radio Paging Operators," *Communications*, October 1992, at 18-24.

¹⁰ See "Survey Shows Paging Growth and Predicts Stable Revenue," *Telocator*, August/September 1992, at 20.

7. Historically, the 900 MHz PCP channels have been less heavily used than other paging frequencies. Nevertheless, demand for these frequencies has increased as alternative spectrum grows scarce. In response to this demand, we allotted additional PCP channels to commercial use and authorized inter-pool sharing in 1985.¹¹ In 1991, we began to explore further alternatives to promote efficient use of these channels and temporarily froze applications for new 900 MHz PCP licenses.¹² Since the freeze was lifted, we have received numerous additional applications. While some of this activity is probably attributable to anticipation of regulatory action, we believe it also reflects genuine demand for new paging services on these channels.

C. NABER Petition For Rule Making.

8. On April 24, 1992, NABER filed a Petition for Rule Making proposing channel exclusivity for 900 MHz PCP systems that contain a defined number of transmitters in a given area. The Petition states that this rule change will foster the development of local, regional, and nationwide paging systems and will prevent the type of congestion that has occurred on lower band PCP channels.¹³ NABER also argues that its proposal will encourage lower band licensees to migrate to available 900 MHz channels.¹⁴

9. Specifically, the NABER proposal calls for channel exclusivity for three categories of paging system: (1) local systems consisting of at least 6 transmitters, except in the New York, Chicago, and Los Angeles urban markets, where 18 transmitters would be required; (2) regional systems containing at least 70 transmitters in no more than 12 contiguous states; and (3) nationwide systems, which would consist of at least 300 transmitters distributed in any manner.¹⁵ In the case of qualified local and regional systems, NABER proposes to bar co-channel transmitters within 70 miles of any transmitter in the system. In the case of qualified nationwide systems, the NABER proposal would prohibit co-channel sharing anywhere in the country.¹⁶

10. As proposed by NABER, existing 900 MHz PCP systems that meet the above criteria would immediately qualify for exclusivity. Applicants proposing to build new qualifying systems would have eight months to construct the required transmitters.¹⁷ Applicants proposing to build more than 30 sites would be entitled to seek a "slow growth" extension of construction.¹⁸ All transmitters counted towards the number required for exclusivity would be subject to minimum technical standards.¹⁹

D. Comments In Response To The NABER Petition.

11. By public notice, we solicited comments on NABER's petition.²⁰ In general, the proposal is supported by 900 MHz PCP licensees.²¹ While acknowledging that 900 MHz PCP channels have not yet become congested, the Petition's supporters argue that such congestion will occur in the future unless exclusivity is implemented.²² Supporters contend that co-channel sharing results in inferior service quality and discourages development of wide-area and nationwide paging systems.²³ Supporters also argue that the capital investment needed to build a qualifying system will be sufficient to prevent speculation and warehousing of channels.²⁴

12. Two other PCP operators, Dial-A-Page and Metagram America, favor the proposal in part but also propose modifications. Dial-A-Page generally supports exclusivity for local and regional systems, but objects to NABER's criteria for nationwide exclusivity as arbitrary and unduly favorable to current operators of large PCP systems.²⁵ Dial-A-Page further argues that we should apply loading standards as a prerequisite for exclusivity and that exclusivity should be extended to lower-band PCP systems.²⁶ Metagram also supports loading standards and argues that nationwide exclusivity should be given only to systems that actually offer nationwide coverage.²⁷

13. Opposition comments were filed by Mobile Telecommunications Technologies Corporation (MTel), which operates a nationwide common carrier paging system, and Dial Page, an operator of both common carrier and lower-band PCP systems. We also received identical form comments opposing the petition from approximately 25 PCP licensees operating at 150 and 460 MHz.²⁸ In general, opponents argue that NABER has not provided evidence of spectrum congestion in the 900 MHz band to justify its proposal.²⁹ Opponents also stress that the NABER proposal would grant nationwide exclusivity to six existing PCP systems, thus reducing the number of channels available to other potential users.³⁰ Finally, opponents contend that the proposal would lead to warehousing of channels and would frustrate new entry by competing paging services.³¹

¹¹ Report and Order, PR Docket 85-102, 58 RR 2d 1290 (1985).

¹² Order, Acceptance of 929-930 MHz One-Way Paging Applications, DA 91-1257, released October 7, 1991.

¹³ NABER Petition at 7-8.

¹⁴ *Id.* at 8.

¹⁵ *Id.* at 10-12.

¹⁶ *Id.*

¹⁷ *Id.* at 12-14.

¹⁸ *Id.* at 13.

¹⁹ *Id.* at 14.

²⁰ Rep. No. 1889, May 11, 1992. A list of parties commenting on the Petition is set forth in Appendix C.

²¹ See, e.g., Comments of Paging Network, PageMart, PacTel Paging, and Comtech. The NABER petition was developed after extensive discussion and debate by these and other PCP operators over the course of the previous year. NABER Reply Comments at 5-7. We are mindful that the NABER proposal represents a serious effort by the private paging industry to achieve consensus among sometimes divergent interests. At the

same time, to the extent that there are PCP operators (particularly in the 900 MHz band) who have objections to the proposal, we will consider their comments carefully.

²² See, e.g., PageNet Comments at 2, PageMart Reply Comments at 3.

²³ See, e.g., PageNet Comments at 12-13, PacTel Comments at 3-4.

²⁴ See, e.g., PageMart Reply Comments at 7-8, Comtech Reply Comments at 2.

²⁵ Dial-A-Page Comments at 4-5.

²⁶ *Id.* at 2-3.

²⁷ Metagram Reply Comments at 2-3.

²⁸ See, e.g., Comments of South Central Communications Corporation. These commenters contend that by allowing large paging companies to obtain nationwide exclusivity, the proposal would discourage migration by lower band licensees.

²⁹ See, e.g., Dial Page Comments at 2-3.

³⁰ See, e.g., MTel Comments at 5.

³¹ See, e.g., Dial Page Comments at 7.

III. DISCUSSION

A. Benefits Of Exclusivity.

14. The proposal to allow exclusive use of PCP channels requires a careful balancing of interests. At the time of our original 900 MHz rule making, we felt that PCP services could develop successfully on a shared-use basis while exclusive channel assignments could lead to under-utilization of spectrum. More recently, the rapid evolution of the paging market has revealed problems with sharing frequencies and potential benefits from granting some form of channel exclusivity to PCP systems.

15. As paging channels are occupied by an increasing number of competing service providers, the sharing of frequencies, while technically feasible, threatens to discourage optimally efficient use. Paging operators on a common frequency must invest in monitoring or interconnection equipment, adding to their costs. Because air time on shared frequencies must be allotted among multiple users, message transmission is often delayed. According to some PCP operators, frequency sharing has inhibited the development of wide-area paging systems that rely on high-speed technologies.³² Paging operators are reluctant to invest in such technologies when they may be required, in effect, to turn their systems off periodically to accommodate other users. To date, these difficulties have been most evident in the 150 and 460 MHz bands, while 900 MHz licensees have generally not been required to share frequencies. As demand for paging channels accelerates, however, the problems that have affected lower band service are increasingly likely to affect the 900 MHz channels.

16. In light of these developments, we believe it would be desirable to establish some form of channel exclusivity for 900 MHz PCP systems.³³ Granting qualified licensees exclusive rights to a channel will eliminate the inefficiencies inherent in sharing channels. Exclusivity will also create a more stable, predictable environment for licensees by eliminating the risk that other users will be assigned the same channel in their service area. Thus, licensees will have greater incentive to invest in technology and to develop higher-capacity paging systems.

17. We also believe that exclusivity should be implemented sooner rather than later, notwithstanding the relative lack of crowding on 900 MHz PCP channels at present. The purpose of granting exclusive channel rights is to prevent congestion before it occurs. So long as the 929-930 MHz band is not heavily used, we have the flexibility to modify our frequency allotment policy with little impact on existing service. If we choose to maintain the *status quo* until crowding occurs, however, we will lose that flexibility and may be unable to implement any new approach at all. By the same token, if the demand for spec-

trum turns out to be less than is anticipated, implementing exclusivity will not deprive us of the flexibility to respond to future changes in the paging marketplace.

B. Configuration Of Protected Systems.

18. Under NABER's proposal, individual PCP stations would not receive automatic exclusivity, but a licensee would be entitled to earn exclusivity by constructing a system comprised of multiple transmitters. We generally concur with this approach. First, we believe that our rules should encourage the development of multi-transmitter systems, which typically provide a wider coverage area and greater flexibility to customers than single-transmitter systems. Second, a multi-transmitter approach requires licensees to make a significant capital investment to build a qualifying system, thereby discouraging warehousing and speculation. To achieve these goals, however, we believe that some aspects of NABER's proposal should be modified. We request comments on the technical basis and practical effect of the NABER proposal and our proposed modifications. We also invite commenters to discuss further modifications or alternatives that would promote the general objectives of this proceeding.

1. Local systems.

19. In all but the three largest metropolitan markets, NABER proposes to grant local exclusivity to any PCP system comprised of at least six contiguous transmitters; in the top three markets, 18 contiguous transmitters would be required. To be "contiguous," each transmitter would have to be located within 20 miles of at least one other transmitter in the system. Channel exclusivity would be based on a standard 70-mile separation between any transmitter in the system and all co-channel stations. While these criteria are generally supported by those in favor of the petition, we propose to modify them in some respects.

a. Number of transmitters.

20. NABER's proposed six-transmitter requirement for local exclusivity appears to establish a reasonable threshold for obtaining an exclusive channel assignment. A six-transmitter minimum should ensure adequate coverage in most markets, and the required capital investment is likely to discourage frivolous applications. In fact, we expect that many PCP licensees will use more than six transmitters to provide local coverage. A significantly higher threshold, however, would unduly favor larger PCP systems, would impose an unfair barrier for new 900 MHz entrants, and could cause licensees to build systems with more transmitters than are actually needed. At the same time, we tentatively conclude that most systems with five or fewer transmitters do not require exclusivity, and that a lower minimum would unacceptably increase the risk of specula-

³² See, e.g., PageNet Comments at 12-13. Wide-area systems typically transmit simultaneously to all points, and some of the larger systems are moving to initial distribution of signals by satellite. If the frequency is shared, however, the entire system may be required to operate on a part-time basis in order to accommodate a paging system that serves a much smaller area. The potentially disproportionate effect of non-exclusivity on wide-area systems is an obvious disincentive to investment in such systems.

³³ MTel contends that allowing PCP exclusivity would violate Section 332 of the Communications Act by eliminating the "last

functional distinction" between private and common carrier paging. MTel Comments at 15-16. We disagree with this contention. First, as discussed herein, our proposal for PCP exclusivity differs from our rules governing common carrier paging in several key respects. Second, the legal distinction between private and common carriage does not turn on whether frequency assignments are exclusive or shared, and there are numerous private services that already have exclusivity. We do not agree with MTel that this rule making requires us to conduct a broad review of common versus private carrier regulation. Such an inquiry, if appropriate, is beyond the scope of this proceeding.

tion.³⁴ We request comment on these tentative conclusions, and urge commenters favoring a different approach to provide technical support for their position.

21. We also tentatively conclude that in the three largest urban markets, more transmitters may be required to ensure that exclusive frequencies are not assigned to operators who lack the resources or commitment to serve these markets. NABER's proposed minimum, however, is lacking in technical support: we note that under our current height and power limits, a licensee could cover each of these markets with fewer than 18 transmitters. We therefore solicit further comment on an appropriate threshold for the top three markets. We also request comment on whether such a threshold should be applied to any other major markets and whether there should be additional prerequisites for exclusivity in these markets.

b. Contiguous transmitters.

22. Under NABER's proposal, each transmitter in a qualified system would have to be within 20 miles of another transmitter to count toward the number required for exclusivity. We propose to increase the maximum distance to 25 miles, which is more compatible with our height and power limits for PCP transmitters and will result in less signal overlap for high-power operations. NABER does not propose a minimum distance between contiguous stations. To prevent "clustering" of multiple transmitters solely to meet the minimum threshold, we propose to prohibit licensees from using co-located transmitters to qualify for exclusivity.³⁵ We request comments on these proposals.

c. Separation standard.

23. We solicit comment on whether NABER's proposed 70-mile separation standard for co-channel stations should be modified. While a uniform standard is simple to administer, it does not vary based on a system's actual transmission range. As a result, licensees receive the same protection regardless of the area they actually proposed to serve. A more flexible alternative would be to base the separation between co-channel transmitters on actual antenna height and transmitter power. We have recently adopted this approach for 900 MHz common carrier paging frequencies, replacing a uniform separation standard with a variable table.³⁶ In our view, the same flexibility

should be available to qualified PCP systems as well and can be achieved without the licensing process becoming significantly more complex or burdensome.³⁷

2. Regional systems.

24. Under NABER's proposal, transmitters in qualified regional systems (comprised of 70 or more transmitters) would receive the same co-channel protection as local system transmitters. Unlike local systems, however, regional systems would be entitled to protection for non-contiguous transmitters, so long as they are situated in no more than 12 adjacent states.³⁸ We generally agree that this proposed standard would encourage the development of regional paging systems. We are concerned, however, that NABER's proposal could also result in the "blocking out" of significant markets through strategic placement of non-contiguous transmitters. Therefore, we propose that to obtain channel exclusivity in any of the top thirty markets,³⁹ a regional system operator must construct enough contiguous transmitters (as defined in the rules for local systems) to meet the criteria for local exclusivity in that market.

3. Nationwide systems.

25. NABER's proposed nationwide exclusivity for PCP systems consisting of 300 or more transmitters has generated the most controversy between supporting and opposing commenters. Petition supporters argue that nationwide exclusivity is appropriate for those licensees who are prepared to make such a substantial investment. Opponents contend that the absence of any geographic criteria in the NABER proposal would enable a PCP licensee to preempt use of its frequency in regions of the country that its system did not actually cover.

26. In our view, PCP licensees who invest in a system that provides service on a national scale should be entitled to nationwide exclusivity. We tentatively conclude that construction of 300 transmitters is an adequate threshold to qualify for nationwide exclusivity and request comment on this standard. We also believe, however, that a geographic distribution requirement should be added to ensure significant coverage of major markets in all regions of the country. Therefore, we propose that to obtain nationwide exclusivity, a PCP licensee must provide service to fifty or more markets, including at least twenty-five of the top fifty markets. In addition, we propose to divide the continental

³⁴ We recognize that in some instances, a licensee may be able to achieve the same coverage provided by a low-power six-transmitter system by using a smaller number of high-power transmitters. We request comment on whether the number of transmitters required for exclusivity should vary depending upon the power output of the system.

³⁵ Under our proposal, multiple transmitters installed on an antenna farm or similar facility would be considered co-located. A licensee would be allowed to install multiple transmitters at a single location, but only one such transmitter would be counted toward the number required to qualify for exclusivity.

³⁶ See 47 C.F.R. §§ 22.502(c), 503(d). Until recently, 900 MHz common carrier paging allocations were based on a standard 70-mile separation between stations. See *First 900 MHz Paging Order*, 89 FCC 2d 1337 at para. 57. In 1990, however, we adopted a table setting varied separation distances (from 70 to 171 miles) based on antenna height and ERP. *Order on Reconsideration*, Height and Power Increases in the Public Mobile Service, CC Docket No. 88-135, 5 FCC Rcd 4604 (1990), at para. 33.

If this table were adopted for 900 MHz PCP systems, the impact would be slightly different than for common carrier paging systems. First, the required separations would apply only to transmitters in qualified multi-transmitter systems, not to all individual transmitters. Second, applying current PCP height and power limits, the maximum separation allowed by the table would be 116 miles. We solicit comment on both the suitability of this approach for PCP services and the specific separation distances proposed.

³⁷ Although a 70-mile separation would remain the smallest possible separation under our current proposal, we are also considering the option of allowing licensees to obtain short-spaced separations based on an appropriate showing. We have adopted such an approach in licensing SMRs, see *Report and Order*, PR Docket 90-34, 6 FCC Rcd 4929 (1991), and request comments on the feasibility of applying the same or a similar standard to PCP services.

³⁸ NABER Petition at 11.

³⁹ See 47 C.F.R. § 90.741.

United States into seven regions, modelled on the seven RBOC regions,⁴⁰ and require that nationwide licensees serve at least two markets in each of these regions.

27. We believe this standard will distinguish paging systems that provide truly national service from systems that are essentially regional in character. As always, our goal is to create a competitive mobile communications marketplace. We encourage commenters to address the issue of whether our proposal for nationwide exclusivity furthers this goal or whether less intrusive options are available. In addition, given the concerns expressed by some commenters that nationwide exclusivity could lead to speculation and spectrum warehousing, we request comment on whether our proposal satisfactorily addresses such concerns. Finally, we seek comment on whether additional requirements may be needed to ensure that nationwide licensees provide adequate coverage to less densely populated regions (e.g., should we require nationwide systems to cover a minimum land area or percentage of the population in each region).

C. Allotment of Channels.

28. Under the NABER proposal, channel exclusivity would be available on all 40 PCP channels, with no distinction made between the commercial and non-commercial pools. Petition opponents criticize this proposal as too favorable to the largest PCP operators, who they predict will crowd out smaller systems and non-commercial licensees. We regard this criticism as overstated: opportunities for large regional and nationwide operators to expand will be balanced by the protection that the proposed rules provide to smaller regional and local systems. Moreover, as discussed in Section E below, we propose to grandfather existing systems to protect the interests of those too small to qualify for exclusivity.⁴¹

29. We propose, however, to reserve five channels that will continue to operate under the current rules.⁴² This is intended primarily to allow the continued development of small systems that operate satisfactorily on a non-exclusive basis. We anticipate that this reserve will be particularly useful to small non-commercial systems that do not need

or desire an exclusive channel assignment. We do not consider it necessary to reserve these channels exclusively for non-commercial use, however, nor do we intend to prohibit non-commercial licensees from seeking exclusivity on the 35 channels that would be subject to the proposed rules. Therefore, we propose that commercial and non-commercial operators be equally eligible to apply for any PCP channel.⁴³ We request comments on all of these proposals.

D. Prerequisites For Channel Exclusivity.

1. Construction Period.

30. The NABER petition would allow PCP applicants eight months to construct their systems or channel exclusivity would terminate. We propose to adopt this standard, which is consistent with our existing construction window for paging licensees.⁴⁴ Conditional exclusivity would commence when the applicant's proposed system is assigned a frequency and would extend for eight months following initial licensing. If the system is not constructed and operating at the end of this period, exclusivity will be forfeited and the channel reassigned to another applicant.⁴⁵ To help expedite the recovery and reassignment of such channels, we propose to apply our "finder's preference" rules to PCP licensees who obtain exclusive frequency assignments and then fail to construct or operate their systems as proposed.⁴⁶

31. Because construction of larger systems may take longer than eight months, NABER proposes a "slow growth" option for construction of systems with more than 30 transmitters. We request comments on this concept, which has been applied to SMR and other private radio services, and which we tentatively conclude is appropriate for PCP services as well. Under our proposal, applicants seeking to build a system comprised of more than 30 transmitters could be granted up to three years to construct based on a showing of reasonable need for the extension, a detailed construction timetable, and evidence of financial ability to construct the system.⁴⁷ As in the case of conventional applicants, a slow growth applicant's failure to com-

⁴⁰ See *U.S. v. Western Electric*, 569 F. Supp. 1057 (D.D.C. 1983). Our proposals for regional and nationwide exclusivity apply only to the continental United States. PCP licensees in Alaska, Hawaii, and Puerto Rico would be eligible for local exclusivity only.

⁴¹ While existing systems would be grandfathered, we do not intend to license new systems that do not qualify for exclusivity on frequencies that are subject to the proposed new rules. Applicants who do not seek exclusivity would be assigned to frequencies reserved for shared use.

⁴² We have tentatively selected five channels from the current non-commercial frequency pool (929.0375, 929.0875, 929.1625, 929.2625, and 929.3375 MHz) for continued assignment on a non-exclusive basis. Current usage of these channels is relatively light, and should provide ample capacity for shared use by new applicants.

⁴³ Historically, the use of frequencies by commercial paging operators has been significantly heavier than non-commercial use. We expect this trend to continue, as most private paging customers will find it more cost-effective to "rent" service from a commercial provider than to own their own system.

⁴⁴ Under our existing rules, failure to construct and operate a base station transmitter within eight months results in termination of the license for that station. See 47 C.F.R. § 90.155. This would continue to be the case under our proposal.

⁴⁵ If a PCP applicant constructed fewer sites than proposed in the application, but the constructed system still qualified for protected status, exclusivity would be granted based on what is actually built. If the applicant constructed fewer transmitters than are needed to obtain exclusivity, it would be allowed to operate the constructed transmitters on a secondary basis, subject to being shut down or relocated if another licensee were to build a qualified system in the same area. If the applicant forfeited protected status by failing to construct, it would be barred from applying for any new authorization in the same area for one year to prevent "rolling over" protection through repetitive applications.

⁴⁶ See *Report and Order*, PR Docket No. 90-481, 6 FCC Rcd 7297 (1991). In our finder's preference proceeding, we determined that the finder's preference mechanism should be applied to all frequencies in the 900 MHz band, among others, that are assigned on an exclusive basis. *Id.* at para 44.

⁴⁷ The showing required of PCP slow growth applicants would be similar to our requirements for other private radio applicants. See 47 C.F.R. §§ 90.629(a), 90.727(a). A possible alternative to a showing of financial ability would be to require applicants to obtain a performance bond underwriting the construction of the proposed system. We request comment on the feasibility of using performance bonds in this manner, the terms that might be required in such a bond, and the appropriate

plete construction as proposed would result in forfeiture of exclusivity and revocation of licenses for all unconstructed transmitters.

2. Technical Standards.

32. To discourage speculative applications, NABER proposes minimum technical standards for each transmitter to be counted towards the number required for channel exclusivity. Specifically, each transmitter would be required to have 100 watts minimum output power and simulcast capability, and all transmitters would have to function together as part of a single operating system. These proposals are generally supported by the comments and appear to be reasonable in light of current paging technology.⁴⁸ We therefore propose to adopt this aspect of NABER's proposal. We solicit comments on these standards, on possible alternatives, and on whether any additional technical requirements should be imposed.

3. Loading requirements.

33. Petition opponents contend that the proposed construction and technical requirements will not prevent speculation,⁴⁹ and call for the imposition of loading standards as an additional requirement for exclusivity. We have elected not to incorporate a loading standard into our proposal.⁵⁰ While loading requirements have some advantages, we believe that the other aspects of this proposal will substantially discourage speculation. Moreover, our experience has been that loading standards are burdensome to administer and difficult to calibrate to the realities of the paging marketplace.⁵¹

4. Multiple channels.

34. The NABER petition does not address whether applicants would be allowed to request or obtain exclusivity on more than one frequency. We believe that restrictions are needed to prevent PCP operators from attempting to apply for multiple frequencies to block entry by potential competitors. We therefore propose that applicants for exclusive channels be limited to requesting one frequency at a time at any location. In addition, no applicant would be

assigned a second frequency in a given area unless and until it completed construction and commenced operation of a qualified system in that area on the initial frequency. We request comment on this proposal and on whether any additional requirements should be imposed.

E. Application Of Proposed Rules To Existing 900 MHz Paging Systems.

1. Systems currently qualified for exclusivity.

35. Because there are already numerous PCP systems operating at 929-930 MHz, we have considered carefully how these systems would be treated under this proposal. Our tentative conclusion is that the most practical and equitable approach is to extend exclusive channel rights to all systems that qualify for such protection at the time the rules go into effect. As some petition opponents have pointed out, this would result in immediate exclusivity for some large existing PCP systems. We do not agree with opponents, however, that this would leave insufficient spectrum for new entrants. Even allowing for existing systems, there would still be significant room for new applicants on the 35 channels affected by this rule making.⁵² We also do not agree with the contention that our proposal constitutes an unfair preference for existing systems. In our view, it is appropriate to grant exclusivity to licensees who are already operating systems that meet our criteria for exclusivity. This does not constitute a preference at all, but simply reflects the investment that these licensees have already made at 900 MHz when other potential applicants chose not to.⁵³

2. Grandfathering of smaller systems.

36. We also propose to grandfather all existing systems that do not qualify for exclusivity. Thus, the rules prohibiting co-channel transmitters within a minimum distance of a qualified system would not apply to any transmitter authorized as of the effective date of these proposed rules. This would enable small existing systems to continue operating without being forced to change frequencies or location. In our view, some form of grandfathering is essential to protect the interests of existing licensees. At the same

bonding amount.

⁴⁸ In some instances, the proposed minimum output could cause ERP to exceed current allowable limits. See 47 C.F.R. § 90.494(f). In such instances, the applicable ERP limit would supersede the minimum output standard.

⁴⁹ Dial Page argues that exclusive assignment of 930-931 MHz common carrier paging channels has led to substantial warehousing, and that PCP channels will be similarly warehoused if exclusivity is adopted. Dial Page Comments at 6-7, Supplement to Reply Comments at 2-5. However, even if Dial Page's contentions about common carrier warehousing (which are based on sketchy data at best) are assumed to be true, the multiple transmitter requirement and technical standards in our PCP proposal impose a significantly higher threshold to qualify for exclusivity than is imposed on common carrier licensees.

⁵⁰ In accordance with our current rules, however, all PCP licensees will continue to be required to provide loading information in their initial license applications and when requesting license modification or renewal. See 47 CFR § 90.127.

⁵¹ Some commenters have suggested basing a loading standard on the number of paging units in use. See, e.g., Metagram Comments at 3. Such information is burdensome to provide on an ongoing basis, however, and does not necessarily provide an

accurate picture of actual frequency use. Because of these factors, we have eliminated most end user reporting requirements previously imposed on paging licensees. *Report and Order*, Amendment of Part 90 of the Commission's Rules Pertaining to End User and Mobile Licensing Information, PR Docket 92-78, 7 FCC Rcd 6344 (1992). In that rule making, we also declined to adopt a signalling standard as a method of measuring paging channel occupancy. Although such a standard would theoretically provide better information on actual channel loading, we concluded it would be excessively complicated and unreliable in practice. *Id.* at para. 14 n.40.

⁵² We estimate that the proposed rules would lead to immediate frequency protection for no more than six nationwide networks and nine regional networks. Moreover, this estimate assumes that all currently authorized construction will be completed. Thus, the number of existing licensees who actually qualify for exclusivity may be lower.

⁵³ Even if this were deemed a preference, the Commission has clear authority to grant preferences to existing licensees in establishing new rules. See, e.g., *Second Report and Order/Further NPRM*, Advanced Television Systems, MM Docket No. 87-268, 7 FCC Rcd 3340, 3342-3343 (1992), *recon.*, 7 FCC '4 Rcd 6924 (1992) (limiting initial eligibility for HDTV frequencies to existing broadcasters).

time, grandfathering could limit the benefits of exclusivity by requiring new licensees either to share frequencies with grandfathered licensees or to buy out their systems. We request comment on what impact grandfathering would have on existing systems and on the ability of new systems to obtain exclusive frequencies.

37. Somewhat more complicated is the question of future expansion by grandfathered systems. NABER proposes that grandfathered licensees be allowed to "expand" existing systems to qualify for exclusivity, but does not specify whether they would be allowed to encroach upon the protected area of another system. We tentatively conclude that if any preference is to be given to expansion by existing systems, it should be limited in nature and should not override the protection afforded to other licensees. Under our proposal, therefore, applications to add transmitter sites to existing systems would be treated identically with applications to establish new systems. In the case of mutually exclusive applications, however, a preference would be granted in favor of expanding the existing system. We request comments on this approach.

3. Lower band PCP systems.

38. Although the NABER proposal does not extend to 150 and 460 MHz PCP systems, NABER contends that it will ease crowding on those channels by encouraging lower band operators to migrate to available 900 MHz channels. This contention is disputed by some lower band licensees, who perceive little practical incentive or opportunity for migration. In our view, this proposal would make the 900 MHz band more attractive to lower band licensees than it is presently, but it remains to be seen whether substantial migration would occur. Even if migration is unlikely, however, we are not persuaded by the comments thus far that lower band licensees should receive a preference over other applicants in seeking 900 MHz channels. We request comments on whether such a preference is either necessary or feasible.

39. Some commenters suggest that we should combine our proposal for exclusivity in the 900 MHz band with a similar proposal for the lower band PCP channels.⁵⁴ We do not propose to take such a step in this proceeding. The degree of existing congestion in the 150 and 460 MHz bands raises obstacles to implementing exclusivity that are not present at 900 MHz. Moreover, we believe many licensees will continue to prefer the lower band channels, even on a shared basis, because of their low power requirements and equipment costs. Nevertheless, we are open to

informal comments on how to promote optimally efficient use of the lower band frequencies, whether by earned exclusivity or some other means.

F. Frequency Coordination.

40. We request comment on the role of frequency coordination procedures in the assignment of frequencies under this proposal. While we have relied on coordination in the assignment of shared PCP frequencies, assigning exclusive frequencies raises different issues that may require a revised approach. Nevertheless, coordination may continue to be important to making the licensing process efficient and equitable. We therefore propose to continue to use coordination procedures, but would allow PCP applicants to use any of the three recognized frequency coordinators (NABER, ITA, or APCO) to obtain coordination. This would be consistent with similar proposals we have made affecting coordination of General Category SMR channels and frequencies below 800 MHz.⁵⁵ In our view, the licensing process will benefit from applicants having the option to select the coordinator that best meets their requirements. We seek comment on this proposal.

G. Freeze on Applications.

41. Because of the potential impact of these proposals on both existing paging systems and the future availability of 900 MHz paging channels, we believe that no new construction of 900 MHz paging facilities should be authorized during the pendency of this rule making. Therefore, we will not accept any new applications for 900 MHz paging channels from the adoption date of this Notice through the conclusion of this proceeding.⁵⁶ Applications accepted for filing prior to the adoption date of this notice will be processed normally, and current licensees who have not yet constructed their facilities must complete construction consistent with their existing authorizations. To minimize the impact of the freeze on potential applicants, we will proceed with this rule making on an expedited basis. Assuming the proposed rules are adopted, we propose to give qualified existing systems a thirty-day window to request protected status.⁵⁷ After requests from existing licensees are reviewed and decided, we will begin accepting new applications.

⁵⁴ See, e.g., Dial-A-Page Comments at 2-3, Preferred Networks Comments at 1.

⁵⁵ See Notice of Proposed Rule Making, PR Docket No. 92-209, 7 FCC Rcd 6470 (1992); Notice of Proposed Rule Making, PR Docket No. 92-235, 7 FCC Rcd 8105 (1992). Each of the coordinators would be required to notify the others of applications submitted for coordination, but mutual consent among the coordinators would not be required. Consistent with our current practice, priority of applications would continue to be based on the time of filing with the Commission, not filing with the coordinator.

⁵⁶ The Commission has broad discretion to freeze acceptance of new applications. *Kessler v. FCC*, 326 F.2d 673, 680-681 (D.C. Cir. 1963). The freeze applies to both the construction of new systems and the expansion of existing systems through new construction. In addition, the freeze covers applications for license modification as set forth in 47 CFR § 90.135(a), except

that modifications relating solely to a change in station class, a change in station ownership or control, or a change in the number of paging receivers (47 CFR §§ 90.135(a)(6)-(8)) will continue to be allowed. Minor changes not requiring license modification will also be unaffected by the freeze. See 47 CFR § 90.135(b).

⁵⁷ The proposed thirty-day window is for procedural purposes only. Thus, existing licensees who fail to meet the deadline will not forfeit their right to exclusivity. We anticipate that the initial determination of which existing licensees are entitled to exclusivity will be carried out by the frequency coordinator. In addition, if there are existing licensees on the designated shared frequencies who would qualify for exclusivity under the new rules if they were on an exclusive frequency, we will also use this period to consider requests for reassignment to available exclusive frequencies.

IV. CONCLUSION

42. We believe that this proposed rule making will promote more effective PCP service by providing incentives for licensees to invest in the highest level of technology and to develop efficient, high-capacity paging systems on a local, regional, and national basis. At the same time, we recognize that the changes in the rules being proposed herein touch on a wide variety of conflicting interests and raise many complex issues. We encourage comments on these issues from all interested parties, and will carefully consider alternatives or modifications to these proposals that are consistent with the general objectives stated in this *Notice*.

V. PROCEDURAL MATTERS

A. *Ex Parte* Rules -- Non-restricted Proceeding.

43. This is a non-restricted notice and comment rule making proceeding. *Ex parte* presentations are permitted except during the Sunshine Agenda period, provided that they are disclosed as provided in the Commission's rules. See generally 47 C.F.R. §§ 1.1202, 1.1203, 1.1206(a).

B. Initial Regulatory Flexibility Analysis.

44. An Initial Regulatory Flexibility Analysis is contained in Appendix B to this *Notice*.

C. Comment Period.

45. Interested persons may file comments on or before **May 6, 1993** and reply comments on or before **May 21, 1993**. For filing requirements, see generally 47 C.F.R. §§ 1.415, 1.419. To file formally in this proceeding, you must file an original and four copies of all comments, reply comments, and supporting materials. If you want each Commissioner to receive a personal copy of your comments, you must file an original and nine copies. Send comments and reply comments to the Office of the Secretary, Federal Communications Commission, Washington D.C. 20554. All comments will be available for public inspection during regular business hours in the Dockets Reference Room at the Commission's headquarters at 1919 M Street, N.W., Washington, D.C.

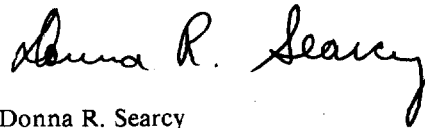
D. Ordering Clause.

46. IT IS ORDERED that, pursuant to the provisions of Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i) and 303(r), no new applications for one-way paging licenses in the 929-930 MHz band will be accepted for filing by the Federal Communications Commission from February 18, 1993, through the conclusion of this proceeding.⁵⁸

E. Further Information.

47. For further information regarding this *Notice*, contact David L. Furth, Private Radio Bureau, Policy and Planning Branch, (202) 634-2443.

FEDERAL COMMUNICATIONS COMMISSION



Donna R. Searcy
Secretary

⁵⁸ The imposition of this freeze on applications is procedural in nature. It is, therefore, not subject to the notice and comment and effective date requirements of the Administrative Procedure Act. See 5 U.S.C. §§ 553(b)(A), 553(d); *Kessler v. FCC*, 326 F.2d 673, 680-681 (D.C. Cir. 1963). Pursuant to 5

U.S.C. § 553(d)(3), we further conclude that good cause exists to put this freeze into effect immediately because a delay in the effectiveness of the freeze could undermine the goals we intend to achieve thereby.

APPENDIX A

Part 90 of Chapter 1 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

PART 90 -- PRIVATE LAND MOBILE RADIO SERVICES

1. The authority citation for Part 90 continues to read as follows:

Authority: Sections 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303 and 332, unless otherwise noted.

2. 47 C.F.R. § 90.175(c) is amended to read as follows:

§ 90.175 Frequency coordination requirements.

* * * * *

(c) For frequencies in the 929-930 MHz band. A statement from the coordinator recommending the most appropriate frequency. For applications under Section 90.495, the coordinator's statement must verify that the proposed system meets the requirements of that section.

3. 47 C.F.R. § 90.494 is revised to read as follows:

§ 90.494 One-way paging operations in the 929-930 MHz band.

(a) The following frequencies are available to all eligible Part 90 users for one-way paging systems on an exclusive basis as provided under Section 90.495:

929.0125	929.2875	929.4875	929.6625	929.8375
929.0625	929.3125	929.5125	929.6875	929.8625
929.1125	929.3625	929.5375	929.7125	929.8875
929.1375	929.3875	929.5625	929.7375	929.9125
929.1875	929.4125	929.5875	929.7625	929.9375
929.2125	929.4375	929.6125	929.7875	929.9625
929.2375	929.4625	929.6375	929.8125	929.9875

(b) The following frequencies are available to all eligible Part 90 users for one-way paging systems on a shared basis only and will not be assigned for the exclusive use of any licensee.

929.0375	929.0875	929.1625	929.2625	929.3375
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(c) All frequencies listed in this section may be used to provide one-way paging communications to persons eligible for licensing under subpart B, C, D, or E of this part and representatives of Federal Government agencies.

The provisions of § 90.173(b) apply to all frequencies listed in this section.

(d) Licensees on these frequencies may utilize any type of paging operation desired (tone only, tone-voice, digital, tactile, optical readout, etc.).

(e) There shall be no minimum or maximum loading standards for these frequencies.

(f) The effective radiated power and antenna height for base stations providing one-way paging service in the frequency band 929-930 MHz must not exceed 1 kilowatt (30 dBw) and 304 meters (1000 feet) above average terrain (AAT), or the equivalent thereof determined from the following table:

Antenna height (AAT) [meters/(feet)]	Effective radiated power (ERP) (watts)
Above 1357 (4500)	65
Above 1205 to 1357 (4000 to 4500)	70
Above 1056 to 1205 (3500 to 4000)	75
Above 904 to 1056 (3000 to 3500)	100
Above 762 to 904 (2500 to 3000)	140
Above 609 to 762 (2000 to 2500)	200
Above 457 to 609 (1500 to 2000)	350
Above 304 to 457 (1000 to 1500)	600

4. Part 90, Subpart P is further amended by adding Sections 90.495 and 90.496 to read as follows:

§ 90.495 Channel exclusivity for local, regional, and national paging systems.

(a) Applicants for commercial or non-commercial private paging systems in the 929-930 MHz band are eligible for channel exclusivity based on the minimum separation standards provided in this section. To qualify for exclusivity, applicants must construct and operate a local, regional, or nationwide paging system that conforms to the following criteria:

(1) A local system must consist of at least six transmitters, except in the New York, Los Angeles, and Chicago MSAs, where [] transmitters are required. No transmitter may be counted as part of a local system for purposes of this section unless:

(i) it is located within 25 miles (40 kilometers) of at least one other transmitter in the system, and

(ii) it is not co-located with any other transmitter being counted as part of a local system for purposes of this section.

(2) A regional system must consist of 70 or more transmitters, located in no more than twelve adjacent states in the continental United States. In each of the top thirty markets listed in Section 90.741, no transmitter may be counted as part of a regional system under this paragraph unless it would also qualify as part of a local system under paragraph (a) (1) of this section.

(3) A nationwide system must consist of 300 or more transmitters in the continental United States and must provide service to:

(i) at least 50 markets;

(ii) 25 of the top 50 markets listed in Section 90.741; and

(iii) two markets in each of the following service regions:

(A) Region 1 -- Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont

(B) Region 2 -- Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, Virginia, West Virginia

(C) Region 3 -- Illinois, Indiana, Ohio, Michigan, Wisconsin

(D) Region 4 -- Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee

(E) Region 5 -- Arkansas, Kansas, Missouri, Oklahoma, Texas

(F) Region 6 -- Arizona, Colorado, Idaho, Iowa, Minnesota, Montana, Nebraska, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming

(G) Region 7 -- California, Nevada

(4) No transmitter may be counted as part of a local, regional, or nationwide system under this section unless it has a minimum output power of 100 watts, has simulcast capability, and is to be operated as part of the paging system for which channel exclusivity is sought.

(5) The provisions of this section apply solely to the frequencies listed in Section 90.494(a).

(b) If a paging licensee qualifies for exclusivity under paragraph (a) of this section, no co-channel authorization may be granted to another applicant except in compliance with the separation requirements set forth in this paragraph.

(1) The following table of heights and powers is used to classify all 929-930 MHz paging stations:

Average antenna height above average terrain [meters/(feet)]	Sta- tion class					
1206-1526 (4001-5000)	G	G	F	E	F	F
862-1205 (2826-4000)	H	G	G	F	F	F
610-861 (2001-2825)	K	H	H	G	F	F
427-609 (1401-2000)	L	K	H	G	G	G
304-426 (1001-1400)	L	L	K	H	G	G
177-303 (581-1000)	L	L	L	L	K	H
0-176 (0-580)	L	L	L	L	L	L
	125	250	500	1000	1860	3500
	Effective radiated power (watts)					

(2) The minimum distance between each co-channel station and each transmitter in a system qualified for local or regional exclusivity under paragraph (a) of this section is determined by the following table:

Station Class		Minimum separation between co-channel stations [kilometers/(miles)]				
L	112 (70)					
K	120 (75)	125 (78)				
H	128 (80)	133 (83)	138 (86)			
G	163 (101)	168 (104)	173 (107)	187 (116)		
F	223 (139)	227 (142)	233 (145)	247 (154)	275 (171)	
	L	K	H	G	F	
	Station class					

(3) No co-channel authorization will be granted in the continental United States on any frequency assigned to a nationwide paging system as defined in paragraph (a)(3) of this section.

(4) The separation standards set forth in this section do not apply to co-channel stations authorized prior to [effective date].

(c) A proposed paging system that meets the criteria for channel exclusivity under paragraph (a) of this section will be granted exclusivity under this section at the time of initial licensing. Such exclusivity will expire unless the proposed system (or a sufficient portion of the system to qualify for exclusivity) is constructed and operating within eight months of the licensing date. If exclusivity expires for failure to construct a qualified system:

(1) the licensee may operate constructed stations, but such operation will be secondary to that of any licensee who qualifies for exclusivity under this section; and

(2) the licensee may not apply for any new station authorization in the previously proposed service area for one year from the expiration of exclusivity.

(d) Applications for channel exclusivity may request no more than one frequency in each location to be served. No applicant or affiliate of an applicant may apply for an additional frequency in an area that is the subject of the applicant's prior application unless the system proposed in the prior application has been constructed, is operating, and meets the criteria set forth in paragraph (a) of this section.

(e) Paging licensees may obtain channel exclusivity for stations authorized prior to [effective date] by showing that such stations constitute part of a paging system that meets the criteria set forth in paragraph (a) of this section.

§ 90.496 Extended implementation schedule.

A period of up to three years may be authorized for constructing and placing a paging system in operation if the proposed system qualifies for channel exclusivity under Section 90.495(a), is comprised of more than 30 transmitters, and the applicant submits justification for an extended implementation period.

(a) The justification must include reasons for requiring an extended construction period, the proposed construction schedule (with milestones), and a showing of financial ability to construct the system.

(b) If an extended construction schedule is authorized under this section, channel exclusivity under Section 90.495 will be extended for the duration of the construction period.

(c) Authorizations under this section are conditioned upon the licensee's compliance with the submitted extended implementation schedule. Failure to meet the schedule will result in loss of authorizations for facilities not constructed and loss of exclusivity as provided in Section 90.495(c).

APPENDIX B

INITIAL REGULATORY FLEXIBILITY ANALYSIS

Reason for Action

The Commission proposes to amend Part 90 of its rules to provide channel exclusivity to qualified private carrier paging systems on certain channels in the 929-930 MHz band. This change will promote the efficient use of paging channels by encouraging investment in new paging technology and the development of more efficient paging systems providing local, regional, and nationwide service.

Legal Basis

The proposed action is authorized under Sections 4(1), 303(g), 303(r), and 331(a) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(g), 303(r), and 332(a) (1988).

Reporting, Recordkeeping and Other Compliance Requirements

None.

Federal Rules Which Overlap, Duplicate or Conflict with These Rules

None.

Description, Potential Impact, and Number of Small Entities Involved

The proposal would not affect the status of existing paging systems, but would change the requirements for obtaining authorization to expand existing systems or construct new systems. Both large and small private carrier paging applicants would be required to submit additional information in the licensing process to demonstrate compliance with geographic separation standards. Approximately two to three hundred existing licensees and an unknown number of potential applicants could be affected by the proposal.

Significant Alternatives Minimizing the Impact on Small Entities Consistent with the Stated Objectives

The *Notice* discusses a variety of alternatives, none of which would have significantly greater or lesser impact than the proposal presented.

IRFA Comments

We request written public comment on the foregoing Initial Regulatory Flexibility Analysis. Comments must have a separate and distinct heading designating them as responses to the IRFA and must be filed by the deadlines provided in paragraph 45 of this *Notice*.

APPENDIX C

**Parties Filing Comments On RM-7986
Petition For Rule Making****Comments**

Dial-A-Page, Inc.

Dial Page, L.P.

Mobile Telecommunication Technologies Corp.

PacTel Paging

Paging Network, Inc.

Reply Comments

Association for Private Carrier Paging, NABER
Comtech, Inc.

Dial Page, L.P.

Metagram America, Inc.

Message Center Beepers, Inc./Beepage, Inc.

Mobile Telecommunications Technologies Corp.

Pactel Paging

PageMart, Inc.

Paging Network, Inc.

Late or Informal Comments

A.A. Beep

Beeper Communications

Citi Page Plus

Dannelly Communications

Fone Page, Inc.

Groome Enterprises

Harlow Communications

Hy-Tech Electronics

K-Comm

Ralph C. Messer

Roger L. Morgan

Peninsula Communications

Personal Page

Power Telecommunication

Preferred Networks, Inc.

Raserco, Inc.

Ray's Electronics, Inc.

Don Reinero

Rodney Shepardson

Sioux Valley Communications

South Central Communications

Tel-Air Communications, Inc.

Tele-Page

Telephone Equipment

Trans-Border Communications

Twin Cities Paging, Inc.

Valley Communications

Lanty H. Wylie, Jr.